

REMARKS/ARGUMENTS

In an office action dated July 23, 2004, the Examiner objected to the specification, rejected claims 1-20 under 35 U.S.C. § 112, rejected claims 8-10 under 35 U.S.C. § 101, and rejected claims 1, 2, 11 and 12 under 35 U.S.C. § 102(e) as anticipated by *Buhannic* (US 2002/0023048). The Examiner is thanked for issuing a Supplemental Office Action due to the confusion that arose concerning the appendix and which claims are currently pending. The Applicants respectfully request reconsideration.

I. THE REJECTION OF CLAIMS 1-20 UNDER 35 U.S.C. § 112(2)

The Examiner rejected claims 1-20 under 35 U.S.C. § 112, second paragraph. Regarding claim 1, the "optionally" language objected to by the Examiner has been deleted. In addition, rather than "previously sent" orders; the claim has been amended to recite "first" and "second" orders. Neither of these changes is believed to have narrowed claim 1.

Claim 11 has been similarly amended.

Regarding the Examiner's rejection of claims 1-20 because of the language "...the determination begin dependent upon the previously-sent order...", the Examiner contends that this limitation fails to clearly state that the determination is dependent upon certain attribute(s) or properties of the order and not the order itself. The Applicants respectfully submit that the Examiner interprets too harshly the requirements of 35 U.S.C. § 112, second paragraph. The Applicants begin by noting that the second paragraph of 35 U.S.C. § 112 requires only a reasonable degree of precision when defining the invention of the patent claims. MPEP 2173.02. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the Examiner might desire. *Id.* This goes hand in hand with the well-worn axiom that an applicant can be his own lexicographer, a fundamental principle to the

Patent Laws. MPEP 2173.01.

The Applicants respectfully submit that the invention encompasses the recited determination based on either certain attribute(s) or properties of the order OR the order itself. Indeed, the location of the order (such as whether it has arrived at the port) is an attribute of the order and thus, there is no basis for an objection to the claim based upon claiming attribute(s) of an order, or the order itself. The Examiner's discomfort thus appears to arise not from the clarity of the term "order", but rather from its broad scope. It is not for the Examiner, however, to define the scope of the Applicants' invention. Instead, it is the inventor who is entitled to submit to the Patent Office claims commensurate with the scope of what he believes is his invention.

The specification explains that balancing data communications loads among data communications ports in systems for automated trading of securities depends upon determining the relative performance of ports connected to a market. Upon knowing the relative performance of the ports, it can be determined which port (such as a least-loaded port) an order should be sent to and through. Determination of port performance can be made in many different ways.

It is respectfully submitted that the term "order" satisfies the statutory requirements of 35 U.S.C. § 112(2). MPEP 2173.01 ("a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought.") Claims 21 and 22 have been submitted, however, so that the Examiner must consider (through claim differentiation) an interpretation of the word "order" as to include the presence of the order itself.

Regarding the Examiner's rejection of claims 3-6, the Examiner contends that these claims contain limitations that do not functionally relate to the process steps of claim 1. For example, "decrementing a net order count for the port" in claim 3 is believed to be unrelated to the limitations recited in claim 1. The Applicants do not fully understand the rejection. Clearly, there

is no prohibition to adding steps to a method claim (note that claim 3, a method claim, recites "further comprising"). Claim 3 has nonetheless been amended to provide that the order count for the first port is stored in a processor. Claim 5 has also been amended to provide that the acknowledgement count for the first port is stored in a processor. These amendments are believed to overcome the Examiner's rejection under 35 U.S.C. § 112(2) of claims 3-6. If the Applicant is mistaken, the Applicant respectfully requests the Examiner's assistance in drafting claims that meet with his approval.

With regard to the rejection under the second paragraph of 35 U.S.C. § 112 as applied to claims 8-10, the Examiner states that "independent claims 1 and 7 upon which claims 8-10 depend refer to a method. However, claims 8-10 recite a limitation of a system component ('the port comprises...')". In response, claims 8-10 have each been amended to recite method steps, with the objectionable "the port comprises" language being deleted.

With respect to the rejection of the clause in claim 12 that recites, "wherein the processor programmed to determine that the port is not overloaded comprises the processor programmed to determine that a ...", this clause has been amended to clarify what is being claimed. Claim 12 is not believed to be narrowed thereby.

Claims 18-20 were rejected because of the recitation of "a data structure for the port". The Examiner asserts that "there is no link is made to any element of claim 11 to the 'data structure'. If the claim intends to further limit 'data communication ports' there must be such element recited as a structure of the system. However, the system of claim 11 does not recite 'the port' as a functional element." In response, each of claims 18-20 have been amended to recite that the data structure is "maintained in said processor". Use of the term processor in this context should be construed broadly (e.g. the claim is intended to cover memory associated with the processor even if off-chip

or if in another processor).

II. THE REJECTION OF CLAIMS 8-10 UNDER 35 U.S.C § 101

The Examiner rejected claims 8-10 under 35 U.S.C. § 101. In particular, the Examiner states:

35 U.S.C. § 101 requires that in order to be patentable the invention must be a 'new and useful process, machine, manufacture or composition of matter or new and useful improvement thereof' (emphasis added). Applicant's claims mentioned above are intended to embrace or overlap two different statutory classes of invention as set forth in 35 U.S.C. § 101. The instant claims contain limitations of a method and a system (see rejection of claims under 35 U.S.C. § 112, second paragraph, for specific details regarding this issue). "A claim of this type is precluded by express language of 35 U.S.C. § 101 which is drafted so as to set forth statutory the statutory classes of invention in the alternative only", Ex parte Lyell (17 USPQ2d 1548).

Claims 8-10 have been amended to delete the objectionable "the port comprises" language.

This is also believed to overcome the related rejection under 35 U.S.C. § 101.

III. THE REJECTION OF CLAIMS 1-3 AND 11-13 UNDER 35 U.S.C. § 102(e) IN VIEW OF BUHANNIC

The Examiner rejected claims 1, 2, 11 and 12 under 35 U.S.C. § 102(e) as anticipated by *Buhannic*.

A rejection under 35 U.S.C. § 102(e) is proper only where a single reference from the prior art discloses, either expressly or inherently, each and every element of the claim at issue. If even a single limitation recited in the claim is not disclosed by the single reference, the rejection can not properly be made under 35 U.S.C. § 102(e). As an initial matter, the Applicant does not admit that *Buhannic* is prior art to the instant application. As can be seen by reference to the cover page of *Buhannic*, only one of the two provisional applications on which *Buhannic* depends was filed previous to the instant application. There is no evidence in the record that the earlier provisional application provides support for the disclosure on which the Examiner depends. Further, the

Applicant reserves the right to swear behind the *Buhannic* reference.

With apologies for any difficulty the Examiner may have had examining the claims submitted by previous counsel, the Applicant respectfully submits that the Examiner's rejection is based on a misconception of *Buhannic* as contrasted to the invention recited in the claims (please note that although the rejection was made with respect to the unamended claims, reference may be made in some instance to the present claims since it is those claims for which allowance is being sought).

The preamble of claim 1 recites a method of balancing data communication in systems for automated trading of securities. Addressing claim 1 in a shorthand manner, claim 1 further recites three distinct elements:

- 1) a market;
- 2) a broker-dealer; and
- 3) (at least) two ports between the market and the broker-dealer.

Of course, more than one market can be (and normally would be) connected to the broker-dealer system, and more than one port may be associated with a particular market.

At page 5 of the office action, the Examiner states that *Buhannic* teaches a method of balancing data communications loads among data communications ports in systems for automated trading of securities. The Applicant respectfully submits, in the strongest terms, that this statement is not accurate. *Buhannic*, as shown in Figure 1, does not expressly teach three different elements as required by claim 1 (broker-dealer, market, port) and therefore does not make the specific teaching that the latency being referred to is port latency.

With respect to the presence of a market in *Buhannic*, the Examiner contends:

(securities trading system, abstract, Figure 1, item 10) (note that *Buhannic* discloses markets as "exchanges" as parties associated with trade

transactions, see paragraph [0019])

OA of 12/2/03, p. 6.

No express citation to *Buhannic* is made at this passage in the office action to a teaching of a broker-dealer, or of a port situated between the broker-dealer and the market. The Examiner does, however, cite to *Buhannic* in supporting the contention that *Buhannic* teaches a step for sending a new order through the port to the market, the sending of the new order being dependent upon the determination that the port is not overloaded:

(referring to [0015] Latency check module 120 establishes communication with each of servers 200, 210, 220, and 230, through the respective latency modules 202, 212, 222, and 232, to continuously check latency of system 10 in general and each server in particular. For example, Packet Internet Groper (PING) technology can be used to send a packet of data between the appropriate servers and logic in latency check module 120 can measure the time required for a reply from the appropriate latency module. Note that each latency module may correspond to a different market as shown in Figure 2)

...(para [0015] latency check module can measure the time required for a reply from the appropriate latency module

([0006] this limitation is inherently met because the latency measured in *Buhannic* pertains to electronic trading systems comprising all electronic communication networks which inherently comprise all components of the networks including one or more communication ports as is well known in the data communication art. Note that a latency module corresponds to a market in view of each node 100 as described on para [0011] and [0012])

OA of 7/23/2004, p. 7.

The Applicants object to the jump in logic made by the Examiner that 1) the *Buhannic* system inherently contains data communication ports, so 2) the latency being measured by *Buhannic* is port latency between a broker-dealer and a market. To the extent *Buhannic* teaches a method of displaying latency, it does not answer the question of whether the latency measured by *Buhannic* is that of a port between a broker-dealer and a market, the latency of the market as a

whole, or the latency of some other component(s). A feature is inherently taught by the reference only when it is necessarily present in the reference. *Continental Can USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991). It does not follow from the inherency argument relied on by the Examiner that the *Buhannic* system necessarily includes multiple ports, or that *Buhannic* measures port latency as recited in the claims. It therefore also does not follow that the *Buhannic* system balances data communications loads among data communication ports between a broker-dealer and a market by sending an order to a port only when it is not overloaded (as opposed to balancing loads among some other components, or data balancing at all). In fact, the silence of *Buhannic* with regard to port latency suggests that the latency of some component other than a port is being measured by *Buhannic*.

As disclosed in the instant application on page 1, data communication ports exist between broker-dealer systems and markets. Customers originate orders, broker-dealer systems receive the orders from the customers, and then the broker-dealers send the orders to the markets. The markets generate acknowledgments that are sent to the broker-dealers. The broker-dealer systems receive the acknowledgments from the markets, and then communicate order status to the customers. Thus, broker-dealers are intermediaries between customers and markets. Ports are between broker-dealers and markets.

Orders are sent to markets through data communication ports from broker-dealers. Responses are received from markets through data communications ports. Ports, therefore, are dedicated to particular markets. Ports may be added to the system, so that more than one port is dedicated to a particular market. Unfortunately, as explained in the specification, a customer's order may be sent from a broker-dealer through a port that is slowed or stopped by overload or mechanical failure. Had the order been sent to a different port dedicated to the same market, one

that was not slowed or stopped, the order would have been filled more quickly. Unbalanced loading of the ports is thus a drawback in automated security trading systems, where performance and customer satisfaction depend on the speed of the transaction. *See* instant application at pp. 1-2.

The system of *Buhannic* does not solve this problem and does not anticipate or render obvious, the claims. *Buhannic* includes a node 100 (see Figure 1) with latency check module 120 to check the latency of each server 200, 210, 220, 230. *Buhannic*, [0014].¹ *Buhannic* discloses server 220 as a buy side server for a broker, server 210 as associated with an institutional investor, and servers 230 and 240 as associated with an exchange (i.e. a market). *Id.* Each server may alternately be an ECN (electronic communications network) (i.e. a market). *Id.* at [0013]. The Examiner appears to identify these servers as markets. The servers themselves are not "ports" between broker-dealers and markets, but the Examiner contends that the market servers would inherently contain ports.

Buhannic discloses that the latency check module 120 can measure the time required for a reply from a chosen server. *Id.* at [0015]. The example is provided that if a trader is trading futures through the broker associated with broker server 200 on sell side server 220 associated with an exchange, a logic element in latency logic module 130 may be programmed to send orders only when broker server 200 is connected with a latency of 100 milliseconds or less and sell side server 220 is connected with a latency of 50 milliseconds or less. *Id.* at [0018]. If these conditions are not met, a warning message and prompt to cancel or continue the trade can be displayed to the trader or other authorized party. Thus, the latency being measured is at most the latency of the market. It is not the latency of a port. Perhaps even more striking, *Buhannic* does not remotely suggest measuring latency so that an order can be sent to a least loaded port. In fact, *Buhannic* is

¹ This refers to paragraph [0014] of the *Buhannic* reference.

silent with regard to the entire issue of ports, or of port latency.

The system taught by *Buhannic* is entirely different from the method and system of amended claim 1. Claim 1 recites a method to determine whether the ports corresponding to a particular market are unbalanced. Once it is known when and whether the ports are unbalanced, corrective action can be taken, such as sending a new order to a least loaded port. The method is thus applicable only where there is more than one port connected between the broker and the market-of-interest. Continuing with the example from *Buhannic*, a measured latency of greater than 100 milliseconds in *Buhannic* would result in at least a warning message. The reason, however, for a measured latency in *Buhannic* to be greater than 100 milliseconds may be that the order was sent to an overcrowded or damaged port between the broker and the market. Simultaneously, there may have existed a different port between the broker and same market that was suitable to execute the order with a latency of less than 100 milliseconds. The method and system of claim 1 would result in the order being sent to this second port, yielding an executed trade, a latency of less than 100 milliseconds, and no warning to the trader.

This is highlighted in instant claim 2, for example. Claim 2 recites that a determination that a port is not overloaded comprises determining that latency for the port is less than a maximum allowed latency.

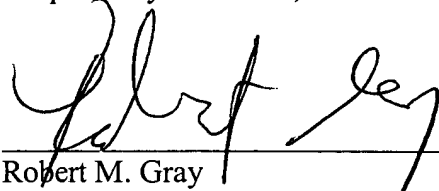
IV. OBJECTION TO THE SPECIFICATION

The Examiner objected to the specification due to the incorporation by reference of a document in its entirety as an appendix. In response, the Applicants have incorporated by reference U.S. Serial No. 09/574,595 and deleted the appendix from the application.

All the claims are believed to be in condition for allowance. Reconsideration is respectfully requested. Should any fees have been inadvertently omitted, or if any additional fees

are required or have been overpaid, please appropriately charge or credit those fees to Deposit Account Number 03-2769 of Conley Rose, P.C., Houston, Texas.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert M. Gray', written over a horizontal line.

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